

Claims

1. A purified amylase inhibitor obtained by a process comprising the steps of:
 - (i) grinding white kidney beans to produce coarsely ground beans;
 - (ii) extracting impurities from the coarsely ground beans by subjecting the beans to supercritical carbon dioxide, under vacuum pressure, to obtain a bean mass;
 - (iii) incubating the bean mass in deionized water to obtain a first bean suspension containing a first solid component and first liquid component;
 - (iv) separating out the first solid component from the bean suspension and retaining the first liquid component;
 - (v) incubating the first solid component in deionized water to obtain a second bean suspension containing a second solid component and a second liquid component;
 - (vi) separating out the second solid component from the second bean suspension and retaining the second liquid component;
 - (vii) combining the first liquid component and the second liquid component to obtain a final liquid solution;
 - (viii) subjecting the final liquid solution to heat exchange to obtain a concentrated bean extract;
 - (ix) drying the concentrated bean extract;

whereby a purified amylase inhibitor is obtained.

2. The purified amylase inhibitor according to claim 1, wherein the separating of steps (iv) and (vi) of the process is carried out by filtering through a filter press.

3. The purified amylase inhibitor according to claim 1, wherein the separating of steps (iv) and (vi) of the process is carried out by centrifugation.

4. The purified amylase inhibitor according to claim 1, wherein the drying of step (ix) of the process is carried out by spray drying the concentrated bean extract to form a dried bean extract, and wherein the method further comprises the steps of:

- (x) rehydrating the dried bean extract to form a rehydrated bean extract;
and
- (xi) lyophilizing the rehydrated bean extract.

5. The purified amylase inhibitor according to claim 1, wherein the drying of step (ix) of the process is carried out by lyophilization.
 6. The purified amylase inhibitor according to claim 1, wherein the extracting of step (ii) of the process is carried out at a temperature of about 120-200°F for about two hours.
 7. The purified amylase inhibitor according to claim 1, wherein the extracting of step (ii) of the process is carried out at a temperature of about 135-160°F for about two hours.
 8. The purified amylase inhibitor according to claim 1, wherein the extracting of step (ii) of the process is carried out at a temperature of about 145°F for about two hours.
 9. The purified amylase inhibitor according to claim 4, wherein about 40-70% of the dried bean extract of step (x) is rehydrated.
 10. The purified amylase inhibitor according to claim 4, wherein about 60% of the dried bean extract of step (x) is rehydrated.
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11. A method for inducing weight loss in a mammal in need thereof comprising administering to the mammal, an effective amount of a purified amylase inhibitor according to claim 1.
 12. The method according to claim 11, wherein the mammal is a human.
 13. A method for improving post-prandial glucose tolerance in a mammal in need thereof comprising administering to the mammal, an effective amount of a purified amylase inhibitor according to claim 1.
 14. The method according to claim 13, wherein the mammal is a human.